# Research Papers Using San Francisco Bay Area Survey Data Sets

Prepared by:
Rachel Gossen
Metropolitan Transportation Commission
101 Eighth Street
Oakland, California 94607

March 2, 2005

## **Household Travel Surveys**

# **BATS2000 Research Papers**

- Bhat, C.R. A Multiple Discrete-Continuous Extreme Value Model: Formulation and Application to Discretionary Time-Use Decisions. 84<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2005.
- Bhat, C.R. A Multiple Discrete-Continuous Extreme Value Model: Formulation and Application to Discretionary Time-Use Decisions. Forthcoming, *Transportation Research*. <a href="http://www.ce.utexas.edu/prof/bhat/fULL\_PAPERS.htm">http://www.ce.utexas.edu/prof/bhat/fULL\_PAPERS.htm</a>. [Accessed February 17, 2005].
- Bhat, C.R. and S. Sen. Household Vehicle Type Holdings and Usage: An Application of the Multiple Discrete-Continuous Extreme Value (MDCEV) Model. Forthcoming, *Transportation Research*. http://www.ce.utexas.edu/prof/bhat/fULL\_PAPERS.htm. [Accessed February 17, 2005].
- Bhat, C.R. and S. Srinivasan. A Multidimensional Mixed Ordered-Response Model for Analyzing Weekend Activity Participation. *Transportation Research. Part B: Methodological*, Vol. 39, No. 3, 2005.
- Bhat, C.R. and S. Srinivasan. Modeling Household Interactions in Daily In-Home and Out-of-Home Maintenance Activity Participation. 84<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2005.
- Bhat, C.R. and A. Lockwood. On Distinguishing Between Physically Active and Physically Passive Episodes and Between Travel and Activity Episodes: An Analysis of Weekend Recreational Participation in the San Francisco Bay Area. *Transportation Research. Part A: Policy and Practice*, Vol. 38, No. 8, 2004.
- Bhat, C.R. and R. Gossen. A Mixed Multinomial Logit Model Analysis of Weekend Recreational Episode Type Choice. *Transportation Research. Part B: Methodological*, Vol. 38, No. 9, 2004.

- Bhat, C.R. and R. Misra. A Comprehensive and Operational Econometric Modeling Framework for Analysis of the Activity-Travel Patterns of Non-Workers. In *Selected Proceedings of the 9th World Conference on Transport Research*, 2001.
- Bhat, C.R. and R. Misra. Comprehensive Activity Travel Pattern Modeling System for Nonworkers with Empirical Focus on Organization of Activity Episodes. In *Transportation Research Record: Journal of the Transportation Research Board*, No.1777, TRB, National Research Council, Washington, D.C., 2001.
- Ferrell, C.E. Home-Based Teleshopping and Shopping Travel: Where Do We Find the Time? 84<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2005.
- Ferrell, C.E. Home-Based Teleshoppers and Shopping Travel: Do Teleshoppers Travel Less? 83<sup>rd</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2004.
- Gossen, R. and C. Purvis. Activities, Time, and Travel: Changes in Women's Travel Time Expenditures, 1990 2000. Presented at the *Research on Women's Issues in Transportation Conference*, Chicago, Illinois, November, 2004. <a href="http://www.mtc.ca.gov/maps">http://www.mtc.ca.gov/maps</a> and data/datamart/research/index.htm. [Accessed March 1, 2005].
- Guo, J.Y., and C.R. Bhat. Modifiable Areal Units: A Problem or a Matter of Perception in the Context of Residential Location Choice Modeling. Forthcoming, *Transportation Research Record*. http://www.ce.utexas.edu/prof/bhat/fULL\_PAPERS.htm. [Accessed February 17, 2005].
- Lockwood, A., S. Srinivasan, and C.R. Bhat. An Exploratory Analysis of Weekend Activity Patterns in the San Francisco Bay Area. Submitted for Publication Consideration to *Transportation Research Record: Journal of the Transportation Research Board*, TRB, National Research Council, Washington, D.C., 2004.
- Misra, R., C.R. Bhat, and S. Srinivasan. Continuous Time Representation and Modeling Framework for Analysis of Nonworker Activity-Travel Patterns: Tour and Episode Attributes. In *Transportation Research Record: Journal of the Transportation Research Board*, No.1831, TRB, National Research Council, Washington, D.C., 2003.
- Rice, L. Transportation Spending by Low-Income California Households: Lessons for the San Francisco Bay Area. Public Policy Institute of California, San Francisco, CA, 2004.

Sall, E.A, C.R. Bhat, and J. Reckinger. An Analysis of Weekend Work Activity Patterns in the San Francisco Bay Area. 84<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2005. Technical paper also available, Department of Civil Engineering, The University of Texas at Austin, August 2004. <a href="http://www.ce.utexas.edu/prof/bhat/fULL\_PAPERS.htm">http://www.ce.utexas.edu/prof/bhat/fULL\_PAPERS.htm</a>. [Accessed February 17, 2005].

Srinivasan, K. and S.R. Athuru. Modeling Interaction Between Internet Communication and Travel Activities: Evidence from Bay Area, California, Travel Survey 2000. In *Transportation Research Record: Journal of the Transportation Research Board*, No.1894, TRB, National Research Council, Washington, D.C., 2004.

Srinivasan, K. and S.R. Athuru. Analysis of Within-Household Effects and Between-Household Differences in Maintenance Activity Allocation. 84<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2005.

Srinivasan, S. and C.R. Bhat. Modeling the Generation and Allocation of Shopping Activities in a Household. *83<sup>rd</sup> Annual Meeting Compendium of Papers CD-ROM*. TRB, National Research Council, Washington, D.C., 2004.

Vaughn, K. Bay Area Travel Survey 2000: Summary of a Regional Household Survey Project. 82<sup>nd</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2003.

Xie, C., J. Lu, and E. Parkany. Work Travel Mode Choice Modeling with Data Mining: Decision Trees and Neural Networks. In *Transportation Research Record: Journal of the Transportation Research Board*, No.1854, TRB, National Research Council, Washington, D.C., 2003.

#### **BATS1996 Research Papers**

Bhat, C.R. and S. Castelar. A Unified Mixed Logit Framework for Modeling Revealed and Stated Preferences: Formulation and Application to Congestion Pricing Analysis in the San Francisco Bay Area. Transportation Research. Part B: Methodological, Vol. 36, No. 7, 8/2002.

Gangrade, S., R.M. Pendyala, and R.G. McCullough. A Nested Logit Model of Commuters' Activity Schedules. *Journal of Transportation and Statistics*, Vol. 5, No. 3, 2002.

Gangrade, S., K. Kasturirangan, and R.M. Pendyala. Coast-to-Coast Comparison of Time Use and Activity Patterns. In *Transportation Research Record: Journal of the Transportation Research Board*, No.1718, TRB, National Research Council, Washington, D.C., 2000.

Kasturirangan, K., R.M. Pendyala, and F.S. Koppelman. History Dependency in Daily Activity Participation and Time Allocation for Commuters. In *Transportation Research Record: Journal of the Transportation Research Board*, No.1807, TRB, National Research Council, Washington, D.C., 2002.

Kasturirangan, K. and R. Pendyala. A Comparison of Commuter Activity Scheduling and Sequencing Behavior across Geographical Contexts. 80<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2001.

Pendyala, R.M., T. Yamamoto and R. Kitamura. On the Formulation of Time-Space Prisms to Model Constraints on Personal Activity-Travel Engagement. *Transportation*, Vol. 29, No. 1, 2/2002.

Reilly, M.K. The Influence of Urban Form and Land Use on Mode Choice: Evidence from the 1996 Bay Area Travel Survey. 81<sup>st</sup> Annual Meeting Compendium of Papers CD-ROM. TRB, National Research Council, Washington, D.C., 2002.

### **BATS1990 Research Papers**

Bhat, C.R. and R. Misra. Comprehensive Activity-Travel Pattern Modeling System for Non-Workers with Empirical Focus on the Organization of Activity Episodes. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1777, TRB, National Research Council, Washington, D.C., 2002.

Bhat, C.R. A Multi-Level Cross-Classified Model for Discrete Response Variables. *Transportation Research Part B*, Vol. 34, pp. 567-582, July 2000.

Bhat, C.R. Incorporating Observed and Unobserved Heterogeneity in Urban Work Mode Choice Modeling. *Transportation Science*, Vol. 34, No. 2, pp. 228-238, May 2000.

Bhat, C.R. and S.K. Singh. A Comprehensive Daily Activity-Travel Generation Model System for Workers. *Transportation Research Part A*, Vol. 34, No. 1, pp. 1-22, January 2000.

Bhat, C.R. An Analysis of Evening Commute Stop-Making Behavior Using Repeated Choice Observations from a Multi-Day Survey. *Transportation Research Part B*, Vol. 33, No. 7, pp. 495-510, September 1999.

Bhat, C.R. Accommodating Flexible Substitution Patterns in Multidimensional Choice Modeling: Formulation and Application to Travel Mode and Departure Time Choice. *Transportation Research Part B*, Vol. 32, No. 7, pp. 455-466, September 1998.

- Bhat, C.R. An Analysis of Travel Mode and Departure Time Choice for Urban Shopping Trips. *Transportation Research Part B*, Vol.32, No. 6, pp.361-371, August 1998.
- Kockelman, K.M. Application of a Utility-Theory-Consistent, System-of-Demand-Equations Approach to Household Travel Choice. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1676, TRB, National Research Council, Washington, D.C., 1999.
- Kockelman, K.M. Travel Behavior as Function of Accessibility, Land Use Mixing, and Land Use Balance: Evidence from San Francisco Bay Area. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1607, TRB, National Research Council, Washington, D.C., 1997.
- Misra, R., C.R. Bhat, and S. Srinivasan. Continuous Time Representation and Modeling Framework for Analysis of Nonworker Activity-Travel Patterns: Tour and Episode Attributes. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1831, TRB, National Research Council, Washington, D.C., 2003.
- Misra, R. A Time Quantum Hurdle Model for Activity Type and Duration of Non-Workers. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1676, TRB, National Research Council, Washington, D.C., 1999.
- Misra, R. and C.R. Bhat. Activity Travel Patterns of Non-Workers in the San Francisco Bay Area: Exploratory Analysis. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1718, TRB, National Research Council, Washington, D.C., 2000.
- Purvis, C. Peak Spreading Models: Promises and Limitations. Seventh TRB Conference on the Application of Transportation Planning Methods. 2002.
- Purvis, C. L. Changes in Regional Travel Characteristics and Travel Time Expenditures in San Francisco Bay Area: 1960-1990. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1466, TRB, National Research Council, Washington, D.C., 1994, pp. 57-66.
- Sermons, M.W. and F.S. Koppelman. Understanding the Differences between Male and Female Commute Behavior in Two-Worker Households. Presented at the 78<sup>th</sup> Annual Meeting of the Transportation Research Board, TRB, National Research Council, Washington, D.C., 1999.
- Taylor, B.D. and M. Mauch. Gender, Race, and Travel Behavior: An Analysis of Household-Serving Travel and Commuting in the San Francisco Bay Area. In *Women's Travel Issues: Proceedings from the Second National Conference October 1996*, Edited by S. Rosenbloom, FHWA-PL-97-024, Federal Highway Administration, Washington, D.C., 1998, pp. 371-406.

#### **BATS1981 Research Papers**

Purvis, C.L., M. Iglesias, and V.A. Eisen. Incorporating Work Trip Accessibility in Nonwork Trip Generation Models in San Francisco Bay Area. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1556, TRB, National Research Council, Washington, D.C., 1996.

Kollo, H. P. H. and C. L. Purvis. Regional Travel Forecasting Model System for the San Francisco Bay Area. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 1220, TRB, National Research Council, Washington, D.C., 1989, pp. 58-65.

Kollo, H. P. H. and C. L. Purvis. Changes in Regional Travel Characteristics in the San Francisco Bay Area: 1960-1981. In *Transportation Research Record: Journal of the Transportation Research Board*, No. 987, TRB, National Research Council, Washington, D.C., 1984, pp. 57-66.

#### **Airline Passenger Survey Papers**

#### 2000/2001 Airline Passenger Survey

Basar, G. and C.R. Bhat. A Parameterized Consideration Set Model for Airport Choice: An Application to the San Francisco Bay Area. *Transportation Research Part B*, Vol. 38, No. 10, pp. 889-904, 2004.

#### 1995 Airline Passenger Survey

Hess, S. and J.W. Polak. Accounting for Random Taste Heterogeneity in Airport-Choice Modelling. 84<sup>th</sup> Annual Meeting Compendium of Papers CD-ROM. Forthcoming, Transportation Research Record: Journal of the Transportation Research Boar, TRB, National Research Council, Washington, D.C., 2005.

Hess, S. and J.W. Polak. Mixed Logit modelling of airport choice in multi-airport regions. *Journal of Air Transport Management*, Vol. 11, No.2, pp.59-68, 2005.

Hess, S. A model for the joint analysis of airport, airline, and access-mode choice for passengers departing from the San Francisco Bay area, paper presented at the European Transport Conference, Strasbourg, October 2004. <a href="http://www.cts.cv.imperial.ac.uk/StaffPages/StephaneHess/index.htm">http://www.cts.cv.imperial.ac.uk/StaffPages/StephaneHess/index.htm</a> [Accessed February 28, 2005].

- Hess, S. An analysis of airport-choice behaviour using the Mixed Multinomial Logit model, paper presented at the European Regional Science Conference, Porto, 2004. <a href="http://www.cts.cv.imperial.ac.uk/StaffPages/StephaneHess/index.htm">http://www.cts.cv.imperial.ac.uk/StaffPages/StephaneHess/index.htm</a> [Accessed February 28, 2005].
- Hess, S. & Polak, J.W. On the use of Discrete Choice Models for Airport Competition with Applications to the San Francisco Bay area Airports, paper presented at the 10<sup>th</sup> triennial WCTR conference, Istanbul, Turkey, 2004. <a href="http://www.cts.cv.imperial.ac.uk/StaffPages/StephaneHess/index.htm">http://www.cts.cv.imperial.ac.uk/StaffPages/StephaneHess/index.htm</a> [Accessed February 28, 2005].
- Hess, S. & Polak, J.W. (2004), Development and application of a model for airport competition in multi-airport regions, paper presented at the Annual UTSG meeting, Newcastle upon Tyne.

http://www.cts.cv.imperial.ac.uk/StaffPages/StephaneHess/index.htm [Accessed February 28, 2005].

Pels E., P. Nijkamp, and P. Rietveld. Access to and Competition between Airports: a Case Study for the San Francisco Bay Area, *Transportation Research Part A*, Vol. 37, No. 1, 2003, pp. 71 – 83.

Pels E., P. Nijkamp, and P. Rietveld. Airport and Airline Choice in a Multiple Airport Region: an Empirical Analysis for the San Francisco Bay Area. *Regional Studies*, Vol. 35.1, 2001, pp. 1 - 9.

# Other Papers using Airline Passenger Surveys from the Bay Area

Hansen, M. Positive Feedback Model of Multiple-Airport Systems. *Journal of Transportation Engineering*, Vol. 121, No. 6, 1995.

Harvey G. Airport Choice in a Multiple Airport Region. *Transportation Research Part A*, Vol. 21, No. 6, 1987, pp. 439 – 449.

Harvey, G. A study of airport access mode choice. *Journal of Transportation Engineering*, Vol. 112, No. 5, 1986.